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THE
MICHIGAN
PORTLAND CEMENT
COMPANY.

A decorative floral ornament is centered on the page. It features a central vertical stem with a thistle-like flower at the top. The stem is adorned with several small, dark, oval-shaped elements. From the middle of the stem, two large, symmetrical, curved lines extend outwards, resembling stylized leaves or petals. The entire design is rendered in a dark, possibly black or dark green, ink.

MICHIGAN

PORTLAND CEMENT

COMPANY

PROSPECTUS

THE MICHIGAN PORTLAND CEMENT COMPANY

FACTORIES: BRANCH COUNTY, MICH.

PRINCIPAL OFFICES :
MAJESTIC BUILDING,
DETROIT, MICH.

Officers and Directors.

WILLIAM L. HOLMES, President,	-	-	-	Detroit.
H. H. HATCH, Vice-President,	-	-	-	Detroit.
JNO. T. HOLMES, Secretary and Treasurer,	-	-	-	Detroit.
L. M. WING,	-	-	-	Coldwater.
L. W. HOCH,	-	-	-	Coldwater.

THE MICHIGAN PORTLAND CEMENT CO.

Factories—Branch County, Mich.

Offices—Majestic Building, Detroit, Mich.

10 88-39875-7C F

The Michigan Portland Cement Company was incorporated under the laws of the State of Michigan for the purpose of developing certain rich deposits recently discovered in Southern Michigan thoroughly adapted to the manufacture of Portland Cement, and to manufacture that article in its best and purest form therefrom. While there are similar deposits scattered here and there throughout the country, the most careful search has failed to discover anywhere a field or deposit which, for this purpose, possesses so fully and satisfactorily all the requirements necessary for the successful and profitable manufacture of genuine Portland Cement, or where the material found is so pure, so abundant, and so conveniently situated as it is in this deposit. Many, and in fact almost all of the deposits commonly regarded, and especially by inexperienced people, as possible or desirable Portland Cement properties have been proven to be worthless. Many persons imagine that a marl bed, or deposit of marl, with any kind of clay, is all that is necessary for a Portland Cement property. No impression could be more erroneous, as there are certain absolutely necessary conditions that must exist for the *successful* manufacture of the article, and certain additional conditions that are just as essential for its *profitable* production. All these features are abso-

lutely necessary and essential ;—they are rarely all found in combination ;—without *all* of them properly combined, no property can be a desirable or profitable cement property.

A few among the many necessary conditions that must be thus combined to produce a Portland Cement property that can be operated are :

1. A deposit of pure carbonate of lime, practically free from certain foreign substances that are generally found in connection with such deposits, in sufficient quantities to render the material worthless for Portland Cement manufacture. This material, carbonate of lime, constitutes from four-fifths to five-sixths of the raw material from which Portland Cement is manufactured.

2. In addition, however, to the above ingredient, Portland Cement must contain, in exact percentages and relative amounts, certain other absolutely necessary ingredients, equally as important as the lime, and prominent among which are silica, alumina and iron, not in irregular proportions, but as stated above, in exact proportions, and permitting variations only within very narrow margins. These ingredients are found in proper proportions only in certain kinds of clay, and very rarely anywhere in the proper proportions to make it available for this purpose.

3. Deposits of both the clay and marl of sufficient extent, depth, etc., and fulfilling certain physical requirements that are as necessary as the chemical conditions.

4. Location of both deposits with relation to the mill that will make it possible to get the raw material to the factory conveniently, quickly, and cheaply.

5. Suitable site for mills, warehouses, etc., conveniently located to the raw material, and with proper railway facilities for transporting the manufactured product, and many other minor, but all essentially important details.

Very few persons realize the difficulties connected with finding and developing a Portland Cement property. While deposits may superficially appear all that is required—the rule has been that investigation will find some flaw, and only the most careful investigation, thorough chemical analysis, and the testing of cement actually produced, can fully determine whether deposits are in *every way* suitable for the manufacture of first-class Portland Cement.

All these points have been most thoroughly tested and investigated in connection with this Company's property to the most minute detail, and by chemists and experts who stand at the head of their professions, both in this country and abroad.

The question with this Company, of making cement from its material, is no longer a theory. Its factory is now running and producing cement, and the following statements from its Ass't Gen'l Manager and its chief Chemist, both located at the mill at Coldwater, show what is being done and the character of the cement the mill is producing.

MICHIGAN PORTLAND CEMENT CO.,

FACTORIES:

COLDWATER, MICHIGAN.

Office, Majestic Building, Detroit.

COLDWATER, MICH., Nov. 26, 1898.

The Michigan Portland Cement Co., Detroit, Mich.:

GENTLEMEN—I hand you herewith laboratory report from Dr. Gerlach, handed me to-day by him, and which shows a test of 145 pounds breaking power after seven days' setting from Portland Cement manufactured at our Coldwater mill.

Everything at the mill is running smoothly; the rotaries are in full commission, our grinding machinery is working satisfactorily, and I forward you to-day samples of the finished product that has been burned in our rotary furnaces, ground in our mills, and that is of such fineness that 95% will pass through a 100-mesh sieve.

While our original plans for handling our material by means of dredges and transporting it to the factory by means of boats could

not have failed to have been as economical as any system in vogue at present, the discovery of the marl beds at the bottom of our lakes, and which will enable us to handle the raw material by means of hydraulic dredges and a pumping system that will carry it direct to the mixing vats at the mill, will give us *facilities for cheaply and conveniently transporting the raw material to the factory that are not equaled by any cement works in existence.*

We have completed arrangements for a hydraulic dredge and the necessary equipment for this purpose, that will handle 200 barrels of marl per hour, pumped from the bottom of our lakes, and that will have sufficient power to carry it from the lake into the mixing vats at the factory.

Our machinery throughout is working smoothly, and the product we are turning out daily is shown by the tests made to be of the very highest grade of Portland Cement.

Very truly yours,
(Signed) GEORGE M. CONNER,
Asst. Gen'l Manager.

MICHIGAN PORTLAND CEMENT CO.

FACTORIES:
BRANCH COUNTY, MICHIGAN.

COLDWATER, MICH., November 25, 1898.

The Michigan Portland Cement Co., Detroit, Mich.:

GENTLEMEN—I beg to make you the following report as to results obtained in seven days' tests of Portland Cement manufactured in our mill at Coldwater.

With a mixture of three parts sand to one of cement, briquettes show after seven days setting a breaking power per square inch of 145 pounds.

These tests prove our Cement to be of the highest quality, and fully equal to any produced anywhere in the world.

Very truly yours,
O. GERLACH,
Chief Chemist, Michigan Portland Cement Co.

It can be safely claimed, and without the slightest exaggeration, that nowhere in the world do conditions exist more perfect in every detail, or more favorable for the manufacture of the highest grade of Portland Cement, than in Branch

County, Michigan. Of these deposits, the best, richest, and in all respects the most desirable, are situated under and surrounding the two chains of lakes extending respectively from Coldwater north and from Quincy south. The best and all of these deposits necessary for successful operation are owned and controlled by the Michigan Portland Cement Company, who after the most thorough and careful search has, by the purchase of certain tracts of land, and gaining control of others, secured for itself absolute control of what is not only the best and in every way the most valuable deposits for the manufacture of Portland Cement discovered in this State, but that have ever been discovered anywhere. The Michigan Portland Cement Company will erect on these lands mills with a capacity for producing an aggregate of 3,000 barrels of Portland Cement per day. Part of this work has already been accomplished, and at Coldwater, as described herein, the Company now has a mill in full operation and is producing cement.

The Company's Property.

The Lime Deposit.

It has been known for some time that the system of lakes west of Coldwater and extending about eight miles in a northerly direction, were surrounded by very extensive marl beds of unusual depth and purity. After careful search there was discovered in the immediate vicinity of the Company's Coldwater factory site, clay containing the proper ingredients in proper proportions. These two discoveries were the foundation and commencement of the pre-ent enterprise. Experts in cement and clay matters and chemists of unquestionable ability and prominence analyzed the two materials, and without exception pronounced them to be of exceptional purity and up to the standard of the best found anywhere in the world. Satisfied with these conditions, work was commenced on the construction of buildings and the equipment of a modern factory. The original plan was to dredge the marl from the borders of the lakes and convey it to the factory by means of a transfer scow, and this in itself would have given the Company great advantage over any other factory operating at this time in this country.

Recently it has been discovered that the deposits of marl distributed around the lake system, were but the outcroppings of the main deposit, and that the lake bed consists of an extraordinarily pure marl bed of unusual depth, and of such consistency, etc., that it can be pumped from the bottom of the lake, and in this manner carried direct to the mixing vats in the factory, practically doing away with the labor and expense of dredging and transporting about five-sixths of the raw material to the factory.

The Clay Deposit.

Advantage and Importance.

Upon the advent of our present chemist, until recently a resident of Germany, and one of the most able and best known cement and clay chemists and experts of that country, he made a most careful search for clay, and satisfied himself from indications that there was even better clay than that already discovered. After extensive investigation his prediction was verified, and he located a clay bank so pure and thoroughly adapted in every detail to the manufacture of Portland Cement that it can be safely claimed that it would be impossible to find anywhere a better clay, and it is doubtful if there has ever been discovered any that equals it.

The Company's Coldwater Mill.

The Company has already erected, and has *in operation*, at the lower end of the chain of lakes extending north from Coldwater, and immediately adjacent to the main line of the Lake Shore & Michigan Southern Railway, a thoroughly first-class, modern mill. Situated as it is, with the advantages it possesses in getting the raw material to the factory, and its railroad facilities for handling the manufactured product, two of the most important items of expense in its operation are reduced to the minimum. The mill as constructed is in every way thoroughly modern and first-class. This is all covered in the following report from B. B. Lathbury, of the firm of Lathbury & Spackman, the best known and most prominent cement experts in this country:

Report on Coldwater Factory and Property.

OFFICE OF
LATHBURY & SPACKMAN,
CONSULTING CIVIL AND MINING ENGINEERS,
1619 Filbert St., Philadelphia, Pa.

PHILADELPHIA, Oct. 22nd, 1898.

The Michigan Portland Cement Co., Detroit, Mich.:

GENTLEMEN—In accordance with your instructions to visit the plant you are about completing at Coldwater, Michigan, and make a general examination of the machinery, general equipment, and buildings erected, we beg to report as follows:

After having gone carefully over the buildings and examined the general lay-out of the machinery already erected, and in course of installation, we would state that the construction of buildings and machinery appears to be of the best quality to cover general conditions existing at your factory site. The general arrangement and mechanical lay-out of the mill is modern in all respects, while the process you contemplate employing is up to date and calculated to manufacture cement at a low cost by reducing labor to a minimum.

The facilities for handling the marl, including dredge and barge now in use, appear to be giving excellent service and fulfilling requirements.

The selection of the site upon which you have erected your plant appears to us to have been a very wise one, offering as it does advantages from the short haul to the main line of the L. S. & M. S. Ry., and also the important advantages derived from the proximity of the lake to the mill, offering in turn ready and easily accessible water transportation for your marl. The location of the clay beds in relation to the mill offers advantages in the quick transportation of this material by either overhead cable or cars and with a short haul.

The plant as now erected can be readily and economically enlarged for an increase in the capacity, and the size of the deposits of both marl and clay warrants such further extension and enlargement.

Good progress appears to us to have been made in the construction and erection of this plant, which will soon be ready to manufacture Portland Cement.

A careful review of the condition of the plant you have erected, with relation to the deposits both from an engineering and economic point of view, would satisfy us that the proposition you made to investors in your prospectus is a conservative one, and that the promises therein made should easily be fulfilled after you have started to manufacture cement, and with able management of the plant the securities of the Company should prove a profitable investment.

Yours very truly,

LATHBURY & SPACKMAN.

This factory now has the machinery and equipments ready and in operation for the manufacture of 600 barrels of Portland Cement per day, and the foundations are laid for a more extensive plant, and the work of extension is already under way. The Portland Cement being made in this mill fulfills every requirement for the highest grade of Portland Cement made anywhere in the world or used in any work.

The Company's Coldwater Lands.

Adjacent to this mill, and owned or subject to the control of The Michigan Portland Cement Company, are located from twelve to fifteen hundred acres, bearing as rich deposits of the material necessary for the manufacture of Portland Cement as has ever been discovered. The discovery of marl in the beds of the lakes has added largely to the extent or acreage of *material* owned by the Company.

The Quincy Property.

At Quincy, five miles east of Coldwater, it was found that in connection with the chain of lakes extending from that point south there was an almost exact duplicate of the Company's property at Coldwater, and this property, or all that is desirable or useful for the Company's purpose, either in manufacturing or to maintain control of the property, has been secured by the Company. As shown by the maps enclosed herewith, the two systems of lakes are connected with each other, and are undoubtedly one and the same general deposit. The same clay has been found at Quincy, and it is practically a duplicate of the Coldwater proposition. Careful investigation fails to show any particular advantage in one over the other. The locations as to railroad transportation are the same; the lake systems are similarly located; clay of similar vein, and the same quality and general characteristics are found at both places; both have navigable lakes and an abundance of water, and the deposits

are located the same; and all the advantageous conditions that exist in one are found in the other, and the description and advantages given above in connection with the Coldwater property apply in all respects to the Quincy property.

Nowhere else is such a combination known to exist, and while the Coldwater property, which was the original property secured, was from the start known to be a most excellent and valuable one—the discovery of a duplicate at Quincy—the discovery of the marl beds in the bottoms of the lakes—and the discovery of a clay, than which nothing could be more perfectly adapted to the purpose—have made the entire property one that at the present time has no equal anywhere in this country or abroad.

The following report from Mr. Lathbury is regarding the Quincy property, and the necessary water and railroad frontages there to give it such control. In addition to its individual value, it is the only property known besides the Coldwater property that possesses the advantages found at Coldwater of water transportation, sub-lake deposits, etc., and completes a system that gives the Company a monopoly of all deposits of this character, and with these advantages, makes it especially valuable and desirable.

OFFICE OF
LATHBURY & SPACKMAN,
CONSULTING CIVIL AND MINING ENGINEERS.
1619 Filbert St., Philadelphia, Pa.

PHILADELPHIA, Oct. 22nd, 1898.

The Michigan Portland Cement Co., Detroit, Mich.:

GENTLEMEN—In accordance with your instructions to visit the location of your deposits of marl and clay at Quincy, Michigan, and to make an examination of the same, we beg to report as follows:

The deposit of marl is located close to the main line of the L. S. & M. S. Ry., and about seven miles from your Coldwater plant. The material lies in the beds of a chain of lakes extending south from the main line of the railroad, and also covers the large area of flat lands adjacent to the lakes. The clay existing in the nature of a

shale is located on the north side of the railroad and close to the proposed plant. Complete analysis of a large number of samples of both the marl and clay taken from various localities of the deposits, and which we have previously reported, show the quality to be entirely suitable for the manufacture of the highest grade of Portland Cement.

The extent of the deposit and its general location offers decided advantages for the location of a plant of large capacity. The natural formation of the ground on the west side of the lake south of the railroad offers an excellent site for the establishment of such a plant, being close to the head of the lake and within twelve hundred feet of the main line of railroad, and also being close to the clay deposits situated on the rising ground on the north side of the railroad, and which in turn offers the advantage of a gravity system for conveying the clay from the beds to the mill.

The marl deposit covering about several hundred acres in extent, is so situated that cargoes of marl excavated by dredge from any locality of the deposit can be readily transported by water to the proposed mill site.

After careful examinations of the conditions existing at this deposit of both marl and clay, we would state that the site offers great advantages for the location of a plant of large capacity, and which we would suggest being placed on the west side of the canal and on the rising ground south, and to the west of the end of the present side track. This location will prove advantageous from the natural conformation of the ground and the large area suitable for a plant of great capacity. It also has the advantage of being readily accessible to the main line of the L. S. & M. S. Ry. by spur side tracks having an easy grade. An overhead cable road could be built for the transportation of the clay to the mill site and operated by a gravity system.

The natural advantages to be derived from the location of a plant on this deposit, and near Chicago, the chief distributing center for Portland Cement in the west, applies to this locality as they did to Coldwater, the site of your present plant.

In conclusion we would state that your proposition to erect a large plant for manufacturing from 1,000 bbls. to 2,000 bbls. of Portland Cement per day is entirely feasible, and the natural advantages of both deposit and site, together with the quality and materials, offer facilities for a plant which will produce the highest grade of Portland Cement at the lowest figure.

Yours truly,

LATHBURY & SPACKMAN.

The Completed System of the Michigan Portland Cement Company.

The system of mills being built by the above Company will, when completed, supported as they are by the deposits owned and controlled by the Company, and possessing unequalled advantages, give The Michigan Portland Cement Company the most valuable plant and property for the manufacture of Portland Cement in the world. This plant and property will not only be among the most extensive in existence, but it will have unequalled facilities for the economical manufacture of its product, and the deposits of marl and clay owned by the Company are practically inexhaustible.

The following reports and tables illustrate the character of the material making up this deposit.

Character and Quality of Material, Product, etc.

Chemical Analysis of Material.

FROM LATHBURY & SPACKMAN,
CONSULTING CIVIL AND MINING ENGINEERS,
PHILADELPHIA, PA.

Average analysis of a number of samples of marl taken from the property of the Michigan Portland Cement Company:

Carbonate of Lime.....	95.00
Carbonate of Magnesia	1.00
Silica.....	.10
Iron and Alumina.....	.32
Sulphuric Acid.....	.52

Physical Tests of Manufactured Product.

An experimental burning made of a proper mixture of this marl and clay in a small upright kiln produced Portland Cement which gave the following results as to strength:

7 days' tensile test:	
Average neat	435 lbs.
3 sand to 1 cement.....	145 lbs.
27 days' tensile test:	
Average neat.....	535 lbs.
3 sand to 1 cement.....	245 lbs.

Opinion on the Result and Investigation.

"These tests are exceedingly good, considering the fact that the mixture was made and burned experimentally, and the cement will develop much higher results when burned under practical conditions and in well-equipped kilns. From the investigation made by us we would state that the materials are perfectly adapted for the manufacture of Portland Cement of the highest grade.

"From our own experience in the investigation of cement properties, extending over a period of seven years, we have not found a deposit to surpass this one in the numerous advantages of location, extent and quality of deposit, and possibilities for lowest cost of production.

"Respectfully,

"LATHBURY & SPACKMAN."

CALUMET & HECLA MINING COMPANY.

LABORATORY.

"SOUTH LAKE LINDEN, MICH., July 30th, 1898.

"Michigan Portland Cement Co., Detroit, Mich.:

"GENTLEMEN—Replying to your inquiry, I beg to say that I have recently analyzed samples of the Coldwater marl submitted me by your President, Mr. Holmes. I found the marl of excellent quality for the manufacture of Portland Cement. According to my analysis, a copy of which has been forwarded to Mr. Holmes, this marl should, when burned with clay, furnish a most excellent Portland Cement, as reported by Messrs. Lathbury & Spackman, the Philadelphia firm who originally analyzed and reported on your marl deposit.

"Yours very truly,

"GEO. L. HEATH,

"Chemist."

Cost of Production.

It will be noticed that the *cost of manufacture* in the following report is 63 cents—less than the 75 cents taken by us as a basis. Our experience shows, and we are fully convinced, that we will be able to manufacture cement at very close to and probably under 50 cents per barrel.

In a very able treatise on "Portland Cement," Max Gary, Civil Engineer, of Berlin, Germany, states that at the Star Works, located at Stettin, Germany, and owned by Toepffer, Grawitz & Co., and where one of the highest grades of German Portland is manufactured by the same process and practically the same material used in the mills of the Michigan Portland Cement Company, with a factory capacity of 1,200 barrels a day, the cost price of manufacture at the above German works is R. M. 1.25, or in American money, approximately, 32 cents per barrel.

LATHBURY & SPACKMAN,

CONSULTING CIVIL AND MINING ENGINEERS.

Chemical and Physical Laboratories, 1619 Filbert St., Philadelphia, Pa.

"The Michigan Portland Cement Co., Detroit, Mich.:"

"GENTLEMEN—In response to your request, we beg to submit to you our general opinion on the feasibility of your proposition to establish and equip a large cement plant on the site of your marl and clay deposits investigated by us some time ago.

"We would estimate the cost of production with such a plant, possessing the advantages it would, on your property, as follows:

1,000 barrels per day at 63c per bbl. in bulk.

2,000 barrels per day at 51c per bbl. in bulk.

3,000 barrels per day at 40c per bbl. in bulk.

"Taking a capacity of 1,000 bbls., we would state that approximately the cost of production, 63c per bbl., is chargeable to the following departments of manufacture:

Dredging marl and excavating clay, hauling to mill site, etc.....	\$0.09
Grinding, mixing and preparing raw material.....	.16
Burning.....	.23
Grinding clinker and transferring cement to storage bins.....	.15
Total per bbl. in bulk.....	\$0.63

"Yours very truly,

"LATHBURY & SPACKMAN."

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31875
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450

PROSPECTUS.

The completed system of the Michigan Portland Cement Company will include:

1. All the lands necessary, useful and important for the Company's purposes around the Coldwater chain of lakes, and the same around the Quincy system of lakes, lands extending westward towards and in the vicinity of Batavia and Bronson, and certain other lands which the Company has deemed it wise to secure and hold.

2. Factory facilities with complete modern equipment for the manufacture of 3,000 barrels per day; certain necessary franchises and rights—railroad and water frontages—and ample and sufficient working capital, in cash, to insure the Company's successful start and operation.

When all of these lands, factories, equipment, rights and franchises, working capital, etc., have been secured and stand in the Company's name, there can then—and not until then—be issued a total of \$1,000,000 of the Six Per Cent. General Mortgage Gold Bonds, and \$2,500,000, the full amount of the Company's Capital Stock.

The issue of these securities is governed by certain stringent restrictions, making it a graded one, and only permitting certain parts of the total, proportionate with the development of the property and construction of the mills, to be issued as the work is carried on, and the total or full amount can only be issued when the entire property complete, factories, equipment, lands, etc., etc., stands in the Company's name, fully paid for, and the Company has in hand ^{2,500,000 dollars} ample working capital to enable it to successfully carry on its business.

It has been the purpose to make the following statement so thoroughly conservative and safe that no question may be raised in the mind of the most conservative person.

1. It places the minimum selling price of the product at \$1.75 per barrel.

The Company knows that this is the lowest possible point that it will be compelled to touch for a reasonable time, and that it will get a much higher price than this for the most of its product. Everything indicates, and the best informed persons in the business predict that a higher price than the one taken herein as the basis for selling price will prevail for good Portland Cement for many years ahead.

2. It gives the cost of manufacture as 75 cents per barrel.

Every evidence that can be secured, the statements of the best experts in the country, and our own actual experience, prove conclusively that especially with the process used by this Company, and even without many of the advantages possessed by this Company, the product can be manufactured at less than 60 cents per barrel, in factories of the capacity which this Company proposes to erect.

3. It gives but 300 working days per annum, when it is absolutely certain that more than this number will be employed.

4. It provides a fund for repairs and renewal, the limit of which will never be reached.

5. It makes a more liberal provision for a surplus and emergency fund than the most conservative and exacting person would estimate as necessary or require.

In brief, the prospectus, including the valuation of property, expenses, earning power, etc., has been prepared upon a basis to cover and meet every possible expense and emergency, and to the actual amount of necessary expenditures has been added a margin that can leave no question in the minds of any persons as to its fairness and thorough conservativeness.

Statement of Valuation of Property, Expenses, Income, Earning Power, Dividends, Etc., Based Upon the Completed System of the Michigan Portland Cement Company.

Including lands, factories, with capacity of 3,000 barrels production per day, franchises, rights, necessary working capital, etc.

Valuation of Property, Completed System.

Lands, etc.....	\$2,200,000
Factories.....	1,500,000
Working capital, franchises, rights.....	1,300,000
Total.....	<u>\$5,000,000</u>

Limit of Securities Possible to be Issued in Connection with the Above.

	BONDS.	STOCK.
Total possible Bond and Stock issue when all the necessary lands, franchises, rights, etc., buildings and equipment for factories capable of producing 3,000 barrels of Portland Cement per day, ample working capital in cash, etc., have been secured.. .. .	\$1,000,000	\$2,500,000

Earning Power.

(Capacity of factories 3,000 barrels per day.)

Minimum selling price to be secured.....		\$1 75 per bbl.
Cost of manufacture	.60	
Margin.....	.15	.75
Balance, gross profit per barrel.....		<u>\$1 00</u>

3,000 bbls. per day at \$1.00 per
bbl. profit, \$3,000 per day.
\$3,000 per day, 300 days per
annum.

Gross annual profit \$900,000

10% Dividend Basis.

Gross annual profit.....	\$900,000
Annual interest on bonds.....	\$ 60,000
Annual sinking fund deposit for bonds.....	40,000
10% dividend on \$2,500,000 capital stock.....	250,000
	<u>350,000</u>
Fund for salaries, annual repairs, renewal of plant, etc.	\$100,000
Annual deposit for fund for surplus, emergency, etc.	100,000
	<u>\$200,000</u>
Margin.....	<u>\$350,000</u>

20% Dividend Basis.

Gross annual profit.....	\$900,000
Annual interest on bonds.....	\$ 60,000
Annual sinking fund deposit for bonds	40,000
20% dividend on \$2,500,000 capital stock.....	500,000
	<u>\$600,000</u>
	<u>\$300,000</u>
Fund for salaries, annual repairs, renewal of plant, etc.	\$100,000
Annual deposit for fund for surplus, emergency, etc.	100,000
	<u>\$200,000</u>
Margin.....	<u>\$100,000</u>

Earning Power on the Basis of 50 Cents a Barrel Profit.

As a proposition, something that no well informed person would expect to be justified by actual conditions, place the profit per barrel at 50 cents instead of \$1.00, which in itself is a perfectly conservative basis. The most pessimistic and skeptical person, having any knowledge of the business, trade conditions, etc., and the advantages the Michigan Portland Cement Company will enjoy, could not conceive of disasters or difficulties that would bring the profit below the lower figure given above.

Upon this basis the following results are shown:

Profit per barrel 50 cents; 3,000 barrels per day at 50 cents per barrel equals \$1,500 per day profit.

\$1,500 per day, 300 days per annum, equals

Gross annual profit.....	\$450,000
Annual interest on bonds.....	\$ 60,000
Annual sinking fund deposit.....	40,000
10% dividend on \$2,500,000 capital stock.....	250,000
	\$350,000

Balance for salaries, repairs, etc., surplus, etc., —

more than necessary \$100,000

It will pay any person, with idle capital, seeking investment, to carefully study these figures. An intelligent consideration of all the facts and conditions existing as set forth in the foregoing should convince any one, no matter how conservative he may be, that the above Bonds,—the payment of their interest and redemption at maturity,—are beyond all question of risk, safe and secure. The Capital Stock of the Company cannot fail to be highly profitable, and the only question that there can be in this connection is, the extent and degree of its profitability.

Something About Portland Cement.

Its manufacture purely a chemical proposition. The difficulties of securing suitable combination of conditions to meet the requirements for a first-class Portland Cement property.

The Importance of the Chemistry of the Process, etc.

One of the most valuable products of the day is Portland Cement. Comparatively few people understand what this article really is. The name "Portland" was given to the cement in 1824 by John Aspdin, a bricklayer, of Leeds, ~~England~~, who discovered a manner of combining certain ingredients to form a hydraulic cement. He chose to call this product "Portland Cement" in consequence of its fancied resemblance in point of color and texture to the limestone of the Island of Portland, at that time a popular building stone in England.)

Mr. Bernard L. Green, C. E., in a paper read before the Civil Engineers' Club, of Cleveland, makes the following statement:

"Portland Cement is produced from the intimate mixture of lime and clay, burned to a point just short of vitrification, and ground to a fine powder. It is thus essentially an artificial product, and clearly distinguishable from the natural cements. It can be made from many materials having the various necessary ingredients in the proper proportions, and these proportions may vary between narrow limits, depending somewhat on the method of manufacture. Scientists have now proved almost conclusively just what chemical combinations and reactions take place upon the calcining of the raw materials, and also when the resulting cement is mixed with water and allowed to set. So there is nothing in the fundamental principles of Portland Cement *making* in which one manufacturer can claim superiority over his rivals; no secret processes, no patent methods."

As shown by the above, the manufacture of Portland Cement resolves itself into a purely chemical proposition, and the chemistry of the work is the most important and critical part of the entire process. No matter how advantageous the location may be, no matter how pure and abundant and thoroughly adapted for this purpose the material, without thorough knowledge of the chemistry of the proposition, the most careful daily analyses of the material and preparation therefrom of the formulæ for mixing and preparing the raw material, and the most careful watching, from

a chemical or scientific standpoint, the burning and process of manufacture, the best, purest, and highest grade of Portland Cement cannot be manufactured. From the foregoing it will be seen that there is no more valuable or important person connected with the entire process than the chemist. In this connection, this Company has spared no pains or expense in securing the ablest, most experienced, and in every respect the most eminent available chemist and specialist in this line, and at the outset the most careful search was made for a suitable and proper person to fill this important position.

After the most careful investigation, the Company secured the services of Dr. Oscar Gerlach, Ph. D., until recently of Berlin, Germany, and he is now in charge of the laboratory and the chemical department of the Company's works. Dr. Gerlach is a graduate of the University of Königsburg, Prussia, and was for years the first assistant in the laboratory and offices of Professors Seeger and Cramer, of Berlin, editors of the celebrated *Thon-Industrie*, the leading European journal of cement and clay chemistry, and who are conceded, beyond all question to be the most eminent and most able cement and clay specialists in the world. In addition to this, Dr. Gerlach spent a considerable time as Special European Expert for leading American cement manufacturers. No better or more competent person could have been found anywhere for handling this important department in an enterprise of the magnitude the Michigan Portland Cement Company will attain at an early day, and Dr. Gerlach's connection with the Company is a guarantee that the cement produced at the Company's factories under his supervision will be equal to that produced in any factory in the world.

After most thorough investigation, careful analysis of the material from the various tracts of land, and actual tests of the cement produced therefrom, Dr. Gerlach unqualifiedly claims and asserts that Portland Cement of the highest possible grade and quality will be successfully manufactured by the Company from its deposits; that he deems the material, both lime deposits and clay, of the best quality, and that the excellence of the materials and location of deposits are extraordinary; and that The Michigan Portland Cement Company's facilities for the satisfactory and economical manufacture of cement are not and cannot be surpassed by those of any other factory in the world.

The Portland Cement Famine.

(From the Cement and Engineering News of Chicago, October, 1898.)

During the past few months there has been a veritable Cement famine in the United States. Large and important works have been delayed for months simply because sufficient Cement could not be obtained, while other large projects involving its use will be carried over for the season of 1899. *While prices have advanced fully 20% at the mills on new contracts, even under these conditions, there has been three buyers for each barrel of cement produced.* In the January issue of this paper we predicted that the output of the American Portland Cement mills for the year would fall short of the domestic demand, and advised dealers to close for the season's supply at the earliest possible date. This was sound advice.

There are numerous indications in sight that the season of 1899 will be a good one for the cement trade, and that the output of the American cement mills will again fall short of the legitimate demand, and that prices will be fully maintained.

Large corporations are arranging to place their orders early so as to insure of not being caught short-handed, as has been the case during the present season. At the present time contractors hesitate to bid on work calling for large quantities of Portland Cement, preferring to separate the bid so as to leave the furnishing of the cement to the principals, simply as a precaution, owing to the state of the cement market.

While Portland Cement prices have uniformly ruled high during the season, there has been a veritable panic in the Louisville natural cement market, where prices have touched as low as 15 cents per barrel in bulk at the mill, shattering the heretofore existing Louisville Cement Trust into fragments. While natural cement has its own appropriate field of usefulness, present conditions indicate that it cannot affect the market price of Portland, since it has shown no sympathy to rise and fall with Portland Cement quotations, and therefore cannot materially affect the existing Portland Cement famine.



